Possible display behaviour of White-necked Picathartes

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This note describes possible display behaviour performed by White-necked Picathartes (Bare-necked Picathartes/Rockfowl) *Picathartes gymnocephalus* observed by us at a small breeding colony approximately three kilometers from the University of Abidjan scientific field station, usually known as Lamto, near Toumidi, Ivory Coast.

Circumstances of observations and description of display

During the late afternoon of 12 October 1991 we had watched for an hour while adult White-necked Picathartes fed two approximately 40% grown pulli in a nest in the forest on an overhanging face of a massive rock cluster. About an hour before dusk we left the area of the nest and worked our way through the trees and under-story close to the lower portion of the rock complex. Within minutes, we caught sight of a White-necked Picathartes bounding onto a boulder, then a swaying, horizontal vine, then subsequently onto the ground near the rock face where a dark opening appeared to form the mouth of a cave in the rocks. Soon this bird was joined by others, until at least seven or eight were present, usually perched on rocks, vines, or branches 2–3 m above the forest floor. Because we were peering through several layers of trees and vegetation, remaining motionless to avoid startling the birds, it was impossible for any one observer to see more than a portion of the scene, and so to count accurately the number of individuals as they actively leapt about.

One individual attracted the attention of H.M., who was fortunate to have an angle of vision permitting observations. This bird bounded onto a fallen log that formed a very gentle arch, perhaps 2 m above the ground. Poised at the central highest point, it adopted a posture with body leaning forward and downward, legs flexed at the tibio-tarsal joint, wings raised and partially open, and neck extended and arched forward and downward so that the head pointed backward and the bill protruded between the legs (Fig. 1). This position was maintained for as long as 10 to 20 seconds, accompanied by back and forth rocking and further stretching of the neck so that the overall slant of the body increased and decreased, and the head extended more or less rearward. Completing these actions, the bird moved to the ground, but within seconds returned to the log, repeating the sequence. This behavioural pattern was performed at least three times during approximately 30 minutes. The sequence was performed while the bird was only a few metres from, level with, and facing, the cave entrance around which several other individuals were gathered.

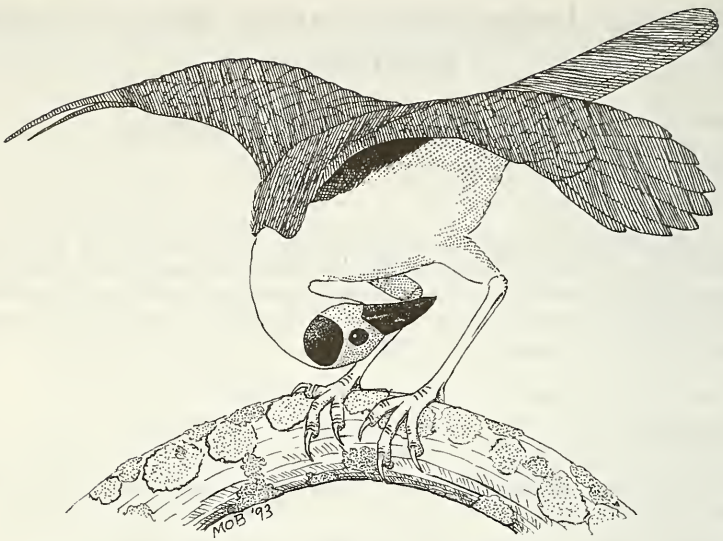

Figure 1. Posture assumed by White-necked Picathartes during the behaviour described in this paper. This figure was drawn by Michael O'Brien, based on descriptions and comments by H.M., on photographs of *Picathartes* in other postures, and on measurements of specimens at the National Museum of Natural History, Smithsonian Institution, Washington. The authors are indebted to Mr O'Brien for his successful effort.

Discussion

The White-necked Picathartes and its close relative, Grey-necked Picathartes *P. oreas*, form a distinct and taxonomically puzzling species-pair. Based on DNA hybridization studies and anatomical evidence, Sibley & Ahlquist (1990) suggest that *Chaetops*, the rock-jumpers of Southern Africa, is the genus most closely related to *Picathartes*, and that these two genera comprise the parvorder Corvida. These authors note, however, "that additional DNA comparisons should be completed before a definite conclusion is reached". The affinities of this species pair thus persist as an enigma of Afrotropical ornithology. Studies of display can provide insights into taxonomic relationships among birds, but whether the behaviour described here can be interpreted within such a context is uncertain. We presume we witnessed a gathering of birds prior to communal roosting within the rock formation. In an informative paper on the biology of *P. oreas*, Fotso (1993) comments that several pairs often gather near a nest site close to the hour of roosting. However, neither that paper, one on the breeding of *P. gymnocephalus* by Grimes (1964), nor a recent overview of the genus *Picathartes* (Thompson & Fotso 1995) mention behaviour such as we witnessed. Without further observations, and knowledge of the relationships of the birds involved, it is not possible to know whether the behaviour observed was that only of a particular individual

or, which seems more likely, was a formalized display, perhaps associated with either roosting or breeding.

ADDENDUM

A description of the behaviour here described was forwarded to Hazell Thompson, Department of Zoology, Fourah Bay College, University of Sierra Leone, Mount Aureol, Freetown, Sierra Leone. Mr Thompson is presently undertaking a study of the ecology and conservation of White-necked Picathartes in Sierra Leone. In a letter dated 9 January 1992, Mr Thompson replied: "I am not aware of any previous description of White-necked Picathartes display. . . . I have indeed seen similar behaviour in Sierra Leone but on a much reduced scale. Among groups of six to eight birds which gather at breeding sites prior to egg-laying, pairs of birds have been seen to face each other for several minutes (up to 15 minutes in one case) and alternately execute half-bows to each other. Each bow is usually followed by a short quivering of the body and tail-shaking. Extensive preening generally occurred between bows. I have not yet observed any accompanying wing movement but all the displays I observed were of birds on the ground and perhaps the wing movement you describe may have more to do with the bird maintaining its balance on the log or vine than with the actual display. The bows I observed were very shallow and could easily be mistaken as part of the preening repertoire . . . All bowing displays were preceded by short chases between bird pairs, consisting of short hops close to and around each other." Based on his own and our observations, Mr Thompson further suggested that the bowing behaviour is of "courtship significance" and that it "provides a possible functional explanation for the striking yellow head with two black patches". We are grateful to Mr Thompson for these insightful comments and for his permission to include them here. In connection with his suggestion, it may be noted that both species of *Picathartes* have along the midline between the eyes two groups of a few filoplumes 3–6 mm in length forming a crest that can be elevated and lowered at will (Fleig 1971).

References:

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Grimes, L. 1964. Some notes on the breeding of *Picathartes gymnocephalus* in Ghana. *Ibis* 106: 258–260.

Sibley, C. G. & Ahlquist, J. E. 1990. *Phylogeny and Classification of Birds. A Study in Molecular Evolution*. Yale Univ. Press.

Thompson, H. S. & Fotso, R. 1995. Rockfowl. The genus *Picathartes*. *Bull. African Bird Club* 2: 25–28.

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